GIL'M KAMAY; MUKMENEV, E.T.

Pentaerythritol esters of antimonous acid. Zhur.ob.khim. 32 no.9:2845-2848 S '62. (MIRA 15:9)

1. Khimicheskiy institut Kazanskogo filiala AN SSSR.
(Antimonic acid) (Pentaerythritol)

GIL'M KAMAY; RUSETSKAYA, G.M.

Asymmetric compounds of phosphorus. Part 1. Zhur.ob.khim. 32 no.9:2848-2854 S '62. (MIRA 15:9)

1. Khimicheskiy institut imeni A.Ye. Arbuzova AN SSSR.
(Phosphorus compounds) (Stereochemistry)

GIL'M KAMAY; RUSETSKAYA, G.M.

Asymmetric compounds of phosphorus. Part 2. Zhur.ob.khim. 32 no.9:2854-2858 S '62. (MIRA 15:9)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M. Kirova.

(Phosphorus compounds) (Stereochemistry)

KAMAY, Gil'm.; CHERNOKAL'SKIY, B.D.; VOROB'YEVA, L.A.

Interaction of trialkylarsine oxides with alkyl halides. Dokl.AN SSSR 145 no.2:328-329 Jl '62. (MIRA 15:7)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni Kirova. Predstavleno akademikom A.Ye.Arbuzovym.
(Arsine oxide) (Alkyl halides)

KAMAY, Gil'm; MUKMENEV, E.T.

Synthesis of antimonous esters of the α-vinylalkyl series. Zhur. ob.khim. 32 no.5:1504-1508 My '62. (MIRA 15:5)

1. Khimicheskiy institut Kazanskogo filiala AN SSSR.
(Antimonic acid)

KAMAY, Gil'm; ZARIPOV, R.K.

α-Alkyl derivatives of allyl and crotonyl esters of arsenious acid. Dokl. AN SSSR 143 no.4:859-862 Ap '62. (MIRA 15:3)

1. Kazanskiy khimiko-tekhnologicheskiy institut im. S.M.Kirova. Predstavleno akademikom A.Ye.Arbuzovym.
(Arsenious acids) (Esters)

KAMAY, Gil'm; RUSETSKAYA, G.M.

Separation of phasphonium compounds with an asymmetric phosphorus atom. Dokl. AN SSSR 143 no.3:596-598 Mr '62. (MIRA 15:3)

1. Khimicheskiy institut Kazanskogo filiala AN SSSR. Predstavleno akademikom A.Ye.Arbuzovym.
(Phosphonium compounds)

KAMAY, G.

PAGE
26. PHOSPHORUS ISOCYANATES. A. V. Kirsanov et al. 163
27. TRICHLOROPHOSPHAZOARYLS. I. N. Zhmurova 175
28. REACTION OF PHOSPHORUS DIIODIDE WITH ALKYL HALIDES. E. S. Levchenko et al. 180
29. N-DICHLOROPHOSPHONYLIMIDOCHLORIDES OF CARBOXYLIC ACIDS (ISOPHOSPHAZO COMPOUNDS).
G. I. Derkach 184
30. REACTIONS OF ARYLPHOSPHORUS CHLORIDES WITH ACID AMIDES. V. I. Shevchenko et al. . . . 188
31. ESTERS OF DIALKYLPHOSPHINOUS ACIDS. E. N. Tsvetkov 193
32. ETHYLENEAMIDES OF PHOSPHONATES. K. A. Petrov and A. I. Gavrilova 197
33. REACTION OF DIALKYL PHOSPHITES WITH QUINONES. M. G. Voronkov and B. I. Ionin 203
34. REACTION OF DIALKYL PHOSPHITES WITH P-BENZOQUINONE. E. S. Shepeleva and P. I. Sanin . 207
35. NEW SYNTHESES OF TRIORGANOSILYL ESTERS OF PHOSPHORIC AND ALKYLPHOSPHONIC ACIDS.
N. F. Orlov and M. G. Voronkov 212
36. ESTERS OF DIALKYLARSINOETHYLPHOSPHINIC ACID. G. Kamai and E. M. Dastanov 217
37. ACTION OF CARBON TETRACHLORIDE AND ALKYL ESTERS OF ETHYLPHENYLPHOSPHINOUS ACID.
G. Kamai et al. 220
38. REACTION OF DIBASIC ACIDS WITH [illegible] CHLORIDES. L. V. Nesterov and R.A. Sabirova 225
39. REACTION OF DITHIOPHOSPHORIC ACIDS WITH AROMATIC DIAZO COMPOUNDS. A. F. Grapov . . . 228
40. REACTION OF ESTERS OF PHOSPHOROUS ACID WITH TRICHLOROACETYL CHLORIDE. L. Z. Soborovskiy et al. 232
41. REACTION OF PHOSPHORUS PENTACHLORIDE WITH ENOL ACETATES. I.F. Lutsenko and M. Kirilov 237
42. STUDIES OF PHOSPHORUS-CONTAINING POLYESTERS. V. V. Korshak et al. 242
43. SYNTHESIS OF PHOSPHORUS-CONTAINING DICARBOXYLIC ACIDS AND THE FORMATION OF POLYAMIDES
FROM THEM. V. V. Korshak et al. 247
44. SYNTHESIS, POLYMERIZATION, AND COPOLYMERIZATION OF ESTERS OF VINYLPHOSPHONIC ACID.
G. S. Kolesnikov et al. 255
45. NEW SYNTHESES OF NEW ORGANOPHOSPHORUS MONOMERS AND POLYMERS. M. A. Andreeva et al. . 263
46. SYNTHESIS OF BIFUNCTIONAL COMPOUNDS OF PHOSPHORUS, B. A. Arbuzov et al. 272
47. SYNTHESIS AND APPLICATIONS OF ORGANOPHOSPHORUS COMPOUNDS IN THE PLASTICS INDUSTRY.
P. A. Moshkin et al. 279
48. PHOSPHORUS-CONTAINING POLYESTER AND POLYAMIDE RESINS. K. A. Petrov et al. 285
49. APPLICATION OF ARBUZOV REARRANGEMENT TO POLYPHOSPHONATE SYNTHESIS. K.A. Petrov et al. 292
50. SUBSTITUTED ORGANOPHOSPHORUS COMPOUNDS AS MONOMERS. E. V. Kuznetsov et al. 296

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and Application of Organophosphorus Compounds) A. Ye. Arbuzov, Ed. publ. by Kazan' Affil, Acad. Sci. USSR, Moscow, 1962 632pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

KAMAY, G.

73

51. VINYL ESTERS OF PHOSPHORUS ACIDS. I. F. [illegible] et al. 305
52. ESTERS OF UNSATURATED PHOSPHORUS ACIDS. Chen Zhan Yui 310
53. DERIVATIVES OF ETHYLALKENYLPHOSPHINIC ACIDS. G. Kamai and V. S. Tsivunin 317
54. REACTIONS OF TETRAALKOXYSILANES AND ALKYLARYLALKOXYSILANES WITH PHOSPHORIC ANHYDRIDE AND PHOSPHORUS CHLORIDES. A. P. Kreshkov and D. A. Karateev 324
55. SYNTHESIS BASED ON PHOSPHINE. E. V. Kuznetsov et al. 329
56. REACTION OF DIALKYL, DIARYL, TRIALKYL AND TRIARYL PHOSPHITES WITH BIS(DIALKOXYTHIOPHOSPHONO)DISULFIDES. N. N. Mel'nikov et al. 333
57. NEW SYNTHESIS OF THIOPHOSPHATE ESTERS. Ya. A. Mandel'baum et al. 340
58. SYNTHESIS AND INSECTICIDAL AND ACARICIDAL ACTIVITY OF O,O-DIETHYL S-2-ALKYLSULFINYLETHYL AND O,O-DIETHYL S-2-ALKYLSULFONYLETHYL DITHIOPHOSPHATES. M. F. Shostakovskii et al. 346
59. SYNTHESIS OF SUBSTITUTED AMIDES AND MIXED ESTERS OF PHOSPHORUS ACIDS WITH POSSIBLE PHYSIOLOGICAL ACTIVITY. F. I. Alimov et al. 353
60. ESTERS OF PHOSPHORIC ACID WITH MERCURY RADICALS AND FUNGICIDAL ACTIVITY. D. G. Yurko et al. 359
61. ETHYLENEPHOSPHORAMIDES WITH ANTITUMOR ACTIVITY. L. D. Protsenko 362
62. ETHYLENEIMINE DERIVATIVES OF SUBSTITUTED PHOSPHORIC AND THIOPHOSPHORIC ACIDS AND THEIR BIOLOGICAL PROPERTIES. A. A. Kropacheva et al. 366
63. SUBSTITUTION OF CHLORINE ATOMS IN PHOSPHONITRILIC CHLORIDE TRIMER BY AMINO RESIDUES AND BIOLOGICAL ACTIVITY OF SOME OF THESE AMINO DERIVATIVES. A. A. Kropacheva et al. 372
64. MECHANISM OF THE ACTION OF ORGANOPHOSPHORUS COMPOUNDS ON WEAR AND FRICTION. P. I. Sanin and A. V. Ul'yanova 376
65. USE OF DIALKYL DITHIOPHOSPHATES IN INDUSTRY. P. I. Sanin et al. 383
66. ORGANOPHOSPHORUS COMPOUNDS WITH CCl_3 GROUPS AS OIL ADDITIVES. P. I. Sanin et al. . . 390
67. TRICHLOROTRICRESYL PHOSPHATE AS A POLY(VINYL CHLORIDE) PLASTICIZER. V.A. Voskresenskii 395
68. AZOMETHINE DYES CONTAINING PHOSPHONO GROUPS. M. G. Imaev 399

PHYSIOLOGY SECTION

69. PHYSIOLOGICAL ACTIVITY OF ORGANOPHOSPHORUS COMPOUNDS. E. V. Zeimal et al. 403
70. MECHANISM AND KINETICS OF THE REACTION OF ORGANOPHOSPHORUS COMPOUNDS WITH CHOLINESTERASE. V. A. Yakovlev 424

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and Application of Organophosphorus Compounds) A. Ye. Arbuzov, Ed. publ. by Kazan' Affil, Acad. Sci. USSR, Moscow, 1962 632pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

KAMAY, GIL'M

GIL'M KAMAY; GATILOV, Yu.F.

Asymmetric tertiary arsines. Part 3: α-Naphthylethylalkylarsines and their derivatives. Zhur.ob.khim. 32 no.10:3170-3172 O '62. (MIRA 15:11)

1. Institut organicheskoy khimii Kazanskogo filiala AN SSSR.

(Arsine)

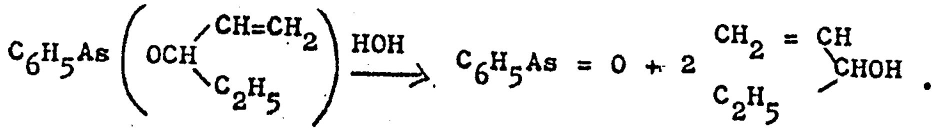
S/153/62/005/006/006/015
E075/E336

AUTHORS: Kamay, Gil'm and Zaripov, R.K.

TITLE: The α-alkylallyl and α-alkylcrotyl esters of phenylarsenious acid

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, v. 5, no. 6, 1962, 938 - 941

TEXT: This is a continuation of earlier work, in which some allyl esters of the arsenious acid were studied. The interaction of phenyldichlorarsine with the unsaturated alcohols with n-C_1 to n -C_5 alkyl substituents was studied in absolute ether in the presence of pyridine or diethylaniline. The esters prepared were colourless liquids which hydrolyzed easily. The saponification of the α-ethylalkyl ester proceeded as follows:



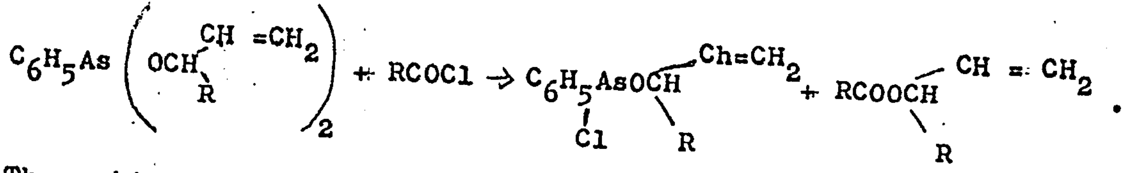
$$C_6H_5As\left(OCH\begin{matrix}\diagup CH=CH_2\\ \diagdown C_2H_5\end{matrix}\right)\xrightarrow{HOH} C_6H_5As=0+2\begin{matrix}CH_2=CH\\ C_2H_5\end{matrix}\rangle CHOH\ .$$

Card 1/2

The α-alkylallyl and ....

S/153/62/005/006/006/015
E075/E336

Double exchange reaction of the α-alkylallyl esters with acetyl and benzoyl chlorides proceeded according to the reaction:



$$C_6H_5As\left(OCH\overset{CH=CH_2}{\underset{R}{}}\right)_2 + RCOCl \rightarrow C_6H_5\underset{Cl}{As}O\underset{R}{CH}{-}Ch{=}CH_2 + RCOO\underset{R}{CH}{-}CH=CH_2 .$$

The acid chlorides are colourless, easily hydrolyzable liquids. There are 3 tables.

ASSOCIATION: Kafedra tekhnologii organicheskogo sinteza, Kazanskiy khimiko-tekhnologicheskiky institut im. S.M. Kirova (Department of Organic Synthesis Technology, Kazan' Institute of Chemical Technology imeni S.M. Kirov)

SUBMITTED: November 16, 1961

Card 2/2

KAMAY, GIL'M

GIL'M KAMAY; KHASANOV, A.S.

Diakyl-β-naphthyl phosphites. Izv.vys.ucheb.zav.;khim.i khim.tekh. 6 no.5:799-801 '63. (MIRA 16:12)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M.Kirova, kafedra tekhnologii organicheskogo sinteza.

GIL'M KAMAY; GATILOV, Yu.F.

Ethylene-α, β-bis (phenylethylarsine)and its derivatives. Zhur.ob. khim. 33 no.4:1189-1191 Ap '63. (MIRA 16:5)

1. Institut organicheskiy khimii AN SSSR v g.Kazani.
(Arsine)

L 17231-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3004286 S/0079/63/033/007/2146/2149

65

AUTHORS: Tsivunin, V. S.; Kamay, Gil'm; Fridland, S. V.

TITLE: Derivatives of Beta-chloroethoxyvinyl phosphonic acid 7

SOURCE: Zhurnal obshchey khimii, v. 33, no. 7, 1963, 2146-2149

TOPIC TAGS: chloroethyl, vinyl, ether, phosphorus pentachloride, phosphonic acid chloride, ester, polymer, phosphonic acid

ABSTRACT: The reaction of Beta-chloroethoxyvinyl with two moles of phosphorus pentachloride followed by decomposition of the resulting complex with sulfer dioxide, [illegible] chloroethoxyvinylphosphonic acid dichloride in 46.5% yield when a cataide. Orig. art. has: 2 tables.

ASSOCIATION: none

Card 1/1

L 17732-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3004287 S/0079/63/033/007/2149/2153

67

66

AUTHORS: Tsivunin, V. S.; Kamay, Gil'm; Sultanova, D. B.

TITLE: Reaction of ethyltetrachlorophosphine with simple vinyl ethers

SOURCE: Zhurnal obshchey khimii, v. 33, no. 7, 1963, 2149-2153

TOPIC TAGS: ethyltetrachlorophosphine, phosphine, chloroethyl vinyl ether, vinyl, ether, phosphic acid, phosphonic acid chloride, adduct

ABSTRACT: In continuation of an earlier study of the reaction of butyl- and isopropylvinyl ethers with ethyltetrachlorophosphine, the present work concerns the reaction of β-chloroethylvinyl and butylvinyl ethers with the same phosphine. Decomposition of the resulting complexes with sulfur dioxide gave the chlorides of ethylbutoxyvinyl- and ethyl-β-chlorovinylphosphic acid chloride. The mechanism for the thermal decomposition of the complex was confirmed by the isolation of dichloroethane from the adduct of β-chloroethylvinyl ether. Orig. art. has: no figures, [illegible] tables.

ASSOCIATION: S. M. Kirova (KAZAN Chemical Engineering Institute.)

Card 1/2

KAMAY, Gil'm; MUKMENEV, E.T.

Bicyclic diphosphites based on pentaerythritol. Zhur.ob.khim. 33 no.10:3197-3201 O '63. (MIRA 16:11)

1. Khimicheskiy institut im. A.Ye.Arbuzova AN SSSR, Kazan'.

KAMAY, G.Kh.; KHARRASOVA, F.M.

Atomic refraction of phosphorus in chlorides and alkyl esters of aryl phosphinic acids. Zhur.ob.khim. 33 no.12:3846-3852 D '63. (MIRA 17:3)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni Kirova.

KAMAY, Gil'm; CHERNOKAL'SKIY, B.D.

Refraction of certain bonds in organoarsenic compounds. Dokl. AN SSSR 149 no.4:850-852 Ap '63. (MIRA 16:3)

1. Kazanskiy khimiko-tekhnologicheskiy institut im. S.M.Kirova. Predstavleno akademikom A.Ye.Arbuzovym.
(Arsenic organic compounds) (Chemical bonds) (Refraction)

GIL'M KAMAY; MIFTAKHOVA, R.G.

Interaction of some arsenyl chlorides with diols. Dokl. AN SSSR 151 no.4:853-855 Ag '63. (MIRA 16:8)

1. Kazanskiy khimiko-tekhnologicheskiy institut im. S.M.Kirova. Predstavleno akademikom A.Ye.Arbuzovym.
(Arsenious acids) (Alcohols)

MUKMENEV, E.T.; KAMAY, Gil'm

Spirodiphosphites. Dokl. AN SSSR 153 no.3:605-607 N '63.
(MIRA 17:1)

1. Institut organicheskoy khimii AN SSSR, Kazan'. Predstavleno akademikom A.Ye. Arbuzovym.

KIRPICHNIKOV, P.A.; KAMAY, Gil'm; KHISAMUTDINOVA, R.Sh.

Synthesis of alkyl- and aryl-β,β'-dichloroisopropyl phosphites.
Zhur.ob.khim. 34 no.2:434-436 F '64. (MIRA 17:3)

KAMAY, Gil'm. KHASANOV, A.S.

Dialkyl-α-naphthyl phosphites. Zhur.ob.khim. 34 no.2:437-439 F '64. (MIRA 17:3)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M.Kirova.

KAMAY, Gil'm; ISMAGILOV, R.K.

Synthesis of some esters of trichloromethyl-p-tolyphosphinic acid.
Zhur.ob.khim. 34 no.2:439-442 F '64. (MIRA 17:3)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M.Kirova.

KAMAY, Gil'm; GATILOV, Yu.F.

Chromatographic separation of quaternary asymmetrical arsonium salts into optically active antipodes and the study of their racemization rates. Zhur. ob. khim. 34 no. 3:782-785 Mr '64.
(MIRA 17:6)

1. Institut organicheskoy khimii AN SSSR, Kazan'.

KAMAY, Gil'm; USACHEVA, G.M.

Separation of asymmetrical phosphonium compounds into optical antipodes by means of an acid silver salt of levorotatory dibenzoyl tartaric acid. Zhur. ob. khim. 34 no. 3:785-790 Mr '64. (MIRA 17:6)

1. Khimicheskiy institut imeni A.Ye. Arbuzova AN SSSR, Kazan'.

KAMAY, Gil'm; KHISAMOVA, Z.L.;

Some organoarsenic derivatives of ethylenimine. Dokl. AN SSSR 156 no. 2:365-367 My '64. (MIRA 17:7)

1. Khimicheskiy institut imeni A.Ye.Arbuzova AN SSSR. Predstavleno akademikom A.Ye.Arbuzovym.

L 25784-66 EWP(j)/EWT(m) RM

SOURCE CODE: UR/0286/65/000/015/0031/0031

ACC NR: AP6015923

26
B

INVENTOR: Tsivunin, V. S.; Kamay, G. Kh.; Khisamutdinova, R. Sh.

ORG: Kazan Chemico-Technological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Method for obtaining oxides or thiooxides of dialkyl-alpha-alkoxyvinylphosphines—Certificate No. 173230, Class C 07f

15

SOURCE: 1 Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 31

TOPIC TAGS: organic phosphorus compound, alkylphosphine, dehydrogenation

ABSTRACT: A method for obtaining oxides of thiooxides or dialkyl-alpha-alkoxyvinylphosphines, distinguished by the fact that dialkylchlorophosphines are treated with alpha-dichloroethylalkyl ethers followed by decomposition of the resulting complex with water or hydrogen sulfide or alcohol and dehydrogenation of the product. [JPRS]

SUB CODE: 07 / SUBM DATE: 27Feb64

Card 1/1

UDC: 547.419.1.002.2

KAMAY, Gil'm; MIFTAKHOVA, R.G.

Transesterification of some acid esters of trivalent arsenic with alcohols. Zhur. ob. khim. 35 no.3:546-548 Mr '65.
(MIRA 18:4)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M. Kirova.

KAMAY, Gil'm; GATILOV, Yu.F.

Synthesis and properties of some new quaternary arsonium compounds.
Zhur. ob. khim. 35 no.6:987-988 Je '65. (MIRA 18:6)

1. Institut organicheskoy khimii AN SSSR, Kazan'.

TSIVUNIN, V.S.; KAMAY, G.Kh.; KHISAMUTDINOVA, R.Sh.; SMIRNOV, Ye.M.

Some derivatives of phenyl-B-chlorovinylphosphinic acid. Zhur. ob. khim. 35 no.7:1231-1233 Jl '65. (MIRA 18:8)

TSIVUNIN, V.S.; KAMAY, Gil'm; SHAGIDULLIN, R.R.; KHISAMUTDINOVA, R.Sh.

Reaction of the condensation of diethylchlorophosphine with a-chloroethylalkyl ethers. Zhur. ob. khim. 35 no.7:1234-1238 Jl '65. (MIRA 18:8)

KAMAY, Gil'm.; GATILOV, Yu.F.

Synthesis and properties of unsaturated organo arsenic compounds.
Zhur. ob. khim. 35 no.7:1239-1240 Jl '65. (MIRA 18:8)

1. Institut organicheskoy khimii AN SSSR, Kazan'.

TSIVUNIN, V.S.; KAMAY, Gil'm; SHAGIDULLIN, R.R.; KHISAMUTDINOVA, R.Sh.

Condensation reaction of diethyl(diphenyl)-chlorophosphine with α, β-dichloroethyl alkyl ethers. Zhur. ob. khim. 35 no.10:1811-1814 O '65. (MIRA 18:10)

TSIVUNIN, V.S.; KAMAY, Gil'm; KHISAMUTDINOVA, R.Sh.

Synthesis of thiooxides of diethyl (diphenyl)-α-(alkoxy)-ethylphosphines, α-(alkoxy)vinylphosphines, and α-(vinoxy) ethylphosphines. Zhur. ob. khim. 35 no.10:1815-1817 O '65. (MIRA 18:10)

L 26060-66 EWT(m)/EWP(j) RM

ACC NR: AP5025129 SOURCE CODE: UR/0079/65/035/010/1817/1819

AUTHOR: Kamay, Gil'm; Tsivunin, V. S.; Nurtdinov, S. Kh.

33

β

ORG: None

TITLE: On obtaining dichloro anhydride of Beta, Beta-dimethyl-vinylphosphonic acid and some of its derivatives

SOURCE: Zhurnal obshchey khimii, v. 35, no. 10, 1965, 1817-1819

TOPIC TAGS: organic phosphorus compound, phosphorus chloride, phosphorus, hydrocarbon, antimony, nonmetallic organic derivative, ester, phosphonic acid

ABSTRACT: It was indicated that in the case of decomposition of the phosphorus pentachloride complex with unsaturated hydrocarbons by elementary phosphorus (white) it was possible to obtain acid chlorides of phosphonous acids. The complex $(RPCl_3)^+(AlCl_4)^-$ was reduced by antimony. The product of the reaction of isobutylene with phosphorus pentachloride can be decomposed by antimony. Derivatives are obtained from the latter: diethyl ester of β,β-dimethylvinylphosphonic acid, diethyl ester of β,β-dimethylvinylthiophosphonic, ethyl ester

Card 1/2

UDC: 546.185.131+547.
538:547.26'118

2

L 26060-66

0

ACC NR: AP5025129

of ethyl-β,β-dimethylvinylphosphonic and ethyl β,β-dichlorvinyl ester of β,β-dimethylvinylphosphonic acids.

SUB CODE: 07 / SUBM DATE: 16Oct64/ ORIG REF: 003/ OTH REF: 008

Card 2/2

L 26059-66 EWT(m)/EWP(j) RM

ACC NR: AP5025130 SOURCE CODE: UR/0079/65/035/010/1819/1821 22

20

B

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Kormachev, V. V.

ORG: Kazan Chemical Engineering Institute imeni S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Aliphatic-aromatic oxides and phosphine thio oxides

SOURCE: Zhurnal obshchey khimii, v. 35, no. 10, 1965, 1819-1821

TOPIC TAGS: Oxide formation, phosphorus chloride, halogenated organic compound, alkylphosphine, alkylphosphine oxide

ABSTRACT: One of the methods for obtaining oxides and thio oxides of phosphines is nucleophilistic decomposition of trialkyl(aryl)dihalogenophosphines. In order to obtain some examples of these types of compounds, the reaction of interaction of diethylchlorphosphine with benzoyl chloride and α-chlormethylnaphthalene was studied, since few similar reactions were described in the literature. It is known that trichloride phosphorus in the absence of third components does not react even with methyl iodide and dialkyl- and diarylchlorphosphines in ordinary conditions do not react with alkyl chlorides. Benzyl chloride and

2

Card 1/2 UDC: 546.181.1

L 26059-66

2

ACC NR: AP5025130

α-chloromethylnaphthalene are the exceptions in this relation, determined obviously by the presence of a conjugation. During their reaction with diethylchlorophosphine, after low termperature heating, white crystal adducts form which are extremely hydroscopic and smoke in the air. The ultimate analysis and quantity of hydrolyzed chlorine confirmed the structure of the adducts as of the diethylbenzyl- and diethyl-α-methylnaphthyl dichlorphosphines. Oxides and thio oxides of diethylbenzylphosphine and diethyl-α-methylnaphthylphosphine are derived by the decomposition of complexes, obtained by alchols and hydrogen sulfide.

SUB CODE: 07 / SUBM DATE: 30Oct64/ ORIG REF: 001/ OTH REF: 004

Card 2/2

L 27762-66 EWT(m)/EWP(j) RM

ACC NR: AP6018504 SOURCE CODE: UR/0079/65/035/011/1993/1998

AUTHOR: Kharrasova, F. M.; Kamay, G.; Shagidullin, R. R.

28
B

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Effect of carbon tetrachloride and chloral on alkyl esters of p-bromophenylphosphinous acid

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 1993-1998

TOPIC TAGS: carbon tetrachloride, ester, organic synthetic process, phosphinic acid, brominated organic compound

ABSTRACT: A series of esters of p-bromophenylphosphinous acid were synthesized and studied. As representatives of trivalent phosphorus derivatives, the esters react with carbon tetrachloride to form esters of p-bromophenyltrichloromethylphosphinic acid, which are thermally unstable compounds. The reaction of esters of p-bromophenylphosphinous acid with chloral proceeds readily with liberation of alkyl chloride and formation of the corresponding mixed alkyl-beta,beta-dichlorovinyl esters of p-bromophenylphosphinic acid. In contrast to the trichloromethylphosphinic derivatives, the beta,beta-dichlorovinyl esters of p-bromophenylphosphinic acid are extremely stable compounds, distilling without signs of decomposition and tolerating storage in sealed ampoules. Infrared spectra are cited for four of the reaction products. Orig. art. has: 1 figure, 3 tables [JPRS]

SUB CODE: 07/ SUBM DATE: 30Oct64 / ORIG REF: 007 / OTH REF: 001
Card 1/1 UDC: 547.412.13/547.446.1/546.183.325

L 27763-66 EWT(m)/EWP(j) RM

ACC NR: AP6018505 SOURCE CODE: UR/0079/65/035/011/1998/2001

27

AUTHOR: Tsivunin, V. S.; Kamay, G.; Shagidullin, R. R.; Khisamutdinova, R. Sh. B

ORG: none

TITLE: Condensation of diethyl- and diphenylchlorophosphine with alpha-chloroaldehydes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 1998-2001

TOPIC TAGS: condensation reaction, aldehyde, chlorinated organic compound, organic phosphorus compound

ABSTRACT: Diethyl(and diphenyl)chlorophosphines were found to form complexes with alpha-chloroaldehydes. The reaction proceeded exothermally when the components were mixed in bulk or in an inert solvent (diethyl ether). Oxides and thiooxides of diethyl(diphenyl)-alpha-hydroxy-beta-chloro-(beta,beta,beta-trichloro)-ethylphosphines were isolated by decomposing the complexes with alcohols or hydrogen sulfide, respectively. The condensation of secondary chlorophosphines with chloroaldehydes, followed by nucleophilic decomposition of the complexes with water or alcohols is recommended as a new, comparatively simple method of producing oxides of dialkyl(or diaryl)-alpha-hydroxyethylphosphines. Orig. art. has:1 figure and

L 27764-66 EWT(m)/EWP(j) RM

ACC NR: AP6018506

SOURCE CODE: UR/0079/65/035/011/2001/2003

AUTHOR: Kamay, G.; Miftakhova, R. G.;

28

B

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Acetoxime esters of acids of trivalent arsenic

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 2001-2003

TOPIC TAGS: organic oxime compound, ester, organic arsenic compound, pyridine, organic synthetic process

ABSTRACT: Acetoxime was found to react with chloro-derivatives of trivalent arsenic in the presence of pyridine analogously to alcohols, forming acetoxime esters of trivalent arsenic acids. When the diacetoxime ester of propylarsinous acid was heated with butanol, one acetoxime group was replaced, with the formation of a mixed ester of propylarsinous acid. In the case of higher alcohols, there was a complete replacement of the acetoxime groups. The infrared absorption spectra and physical constants were studied for the nine complete and mixed esters synthesized. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07/ SUBM DATE: 30Oct64 / ORIG REF: 004 / OTH REF: 001

Card 1/1 *20*

UDC: 546.19:547.288.4:547.284.3

L 25613-66 EWT(m)/EWP(j) RM

ACC NR: AP6016697 SOURCE CODE: UR/0079/65/035/012/2190/2192

AUTHOR: Tsevunin, V. S.; Kamay, G. Kh.; Kormachev, V. V.

ORG: none

21
B

TITLE: Action of secondary chlorophosphines with alpha-Chloro-containing simple esters and sulfides

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2190-2192

TOPIC TAGS: ester, sulfide, chlorinated organic compound, organic phosphorous compound, halogenation, vacuum distillation

ABSTRACT: A considerable number of compounds of the R_3PX_2 type is obtained by the halogenation of tertiary phosphines. Their preparation by the addition of alkyl halides to halophosphines is encountered compartively rarely.

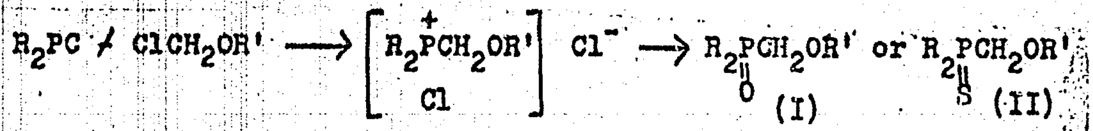
Dialkyl(diaryl)chlorophosphines were treated with alpha-chloromethyl esters and alpha-chloroethylalkyl(aryl)sulfides. The reaction of the dialkylchlorophosphines with these esters and sulfides proceeds with heat evolution, but the reaction of diarylchlorophosphines with these same reagents requires heating on a boiling water bath. The products are crystalline substances or thick liquids.

The complexes are vigorously decomposed by water, alcohols, or hydrogen sulfide to generate hydrogen chloride (alkyl chloride) and the corresponding oxides (I) and thiooxides (II) of phosphines.

Card 1/2 UDC: 546.181.1+547.431.4

L 25611-66

ACC NR: AP6016697



$$R_2PC / ClCH_2OR' \longrightarrow \left[R_2\underset{Cl}{\overset{+}{P}}CH_2OR' \right] Cl^- \longrightarrow R_2\underset{\underset{O}{\|}}{P}CH_2OR' \text{ or } R_2\underset{\underset{S}{\|}}{P}CH_2OR'$$

(I) (II)

The phosphinic oxides are purified only by numerous distillations or by decomposition of the complex with an excess of a higher boiling alcohol (butanol). This is apparently associated with the fact that the oxides are free to form salts with the hydrogen chloride generated during decomposition of the complexes. In the case of the liquid oxides these salts are unstable and a large part of the HCl is cleaved and drawn off during vacuum distillation. This is not observed in the thiooxides. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 01Jan65 / ORIG REF: 001 / OTH REF: 002

Card 2/2

L 3396-66 EWT(m)/EPF(c)/EWP(j)/T/ETC(m) WW/RM

ACCESSION NR: AP5024219 44,55 44,55 UR/0020/65/164/003/0594/0597

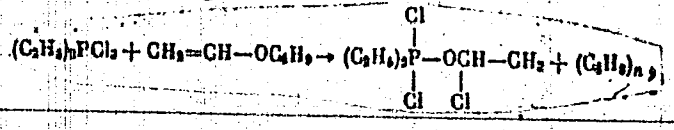
AUTHORS: Tsivunin, V. S.; Kamay, G.; Khisamutdinova, R. Sh. 44,55 38 32 B.

TITLE: On the complex formation of simple vinyl ethers with pentavalent phosphorus chlorides 1,44,55

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 594-597

TOPIC TAGS: complex formation, vinyl ether, phosphorus pentachloride, phosphorus organic compound

ABSTRACT: The complexes formed during the reaction of simple vinyl ethers with pentavalent phosphorus chlorides were studied. In particular, the nature of the thermal degradation products of the complexes studied was determined. It was found that thermal degradation of the $PCl_5\cdot$ vinyl ether complex yielded different products than the degradation of diethyl- and diphenyltrichlorophosphorus·vinyl-ether complexes. The behavior of the diethyltrichlorophosphorus· n-butylvinyl-ether complex, formed according to the scheme



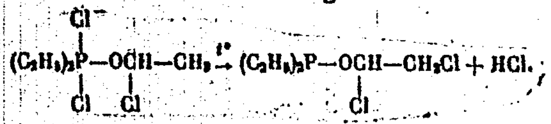
$$(C_2H_5)_2PCl_3 + CH_2{=}CH{-}OC_4H_9 \rightarrow (C_2H_5)_2\overset{Cl}{\underset{Cl}{P}}{-}O\underset{Cl}{CH}{-}CH_2 + (C_4H_8)_n,$$

Card 1/3

L 3396-66

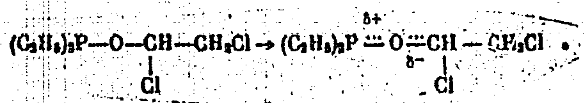
ACCESSION NR: AP5024219 6

is discussed in some detail. The thermal degradation of this complex is assumed to follow the scheme



$$(C_2H_5)_2\underset{Cl}{\overset{Cl^-}{P}}-O\underset{Cl}{C}H-CH_3\xrightarrow{t^\circ}(C_2H_5)_2P-O\underset{Cl}{C}H-CH_2Cl+HCl.$$

The different behavior of phosphorus pentachloride and alkyl or aryl substituted pentavalent phosphorus chloride-vinylether complexes during thermal degradation is attributed to the different utilization of the d orbitals of phosphorus in the formation of the above complexes. IR spectra of diethyl-α-chloroethoxydichlorophosphorus, the acid chloride of diethylphosphinic acid, and α, β-dichloroethyl ether of diethylphosphinic acid were determined and are shown graphically. The existence of the last ether is attributed to the presence of the stabilizing structure:



$$(C_2H_5)_2P-O-\underset{Cl}{C}H-CH_2Cl\rightarrow(C_2H_5)_2\overset{\delta+}{P}\overset{...}{-}\underset{\delta-}{O}\overset{...}{-}\underset{Cl}{C}H-CH_2Cl\ .$$

74,55

The authors thank R. R. Shagidullin for the determination of the IR spectra. Orig. art. has: 1 graph and 10 equations.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut im. S. M. Kirova (Kazan' Chemical Engineering Institute) 44,55

Card 2/3

L 3396-66

ACCESSION NR: AP5024219

0

SUBMITTED: 28Dec64

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 004

OTHER: 002

Card 3/3 *lik*

L 35387-66 EWT(m)/EWP(j) RM

ACC NR: AP6026819 SOURCE CODE: UR/0020/66/166/001/0144/0147

AUTHOR: Chernokal'skiy, B. D.; Gamayurova, V. S.; Kamay, Gil'm

ORG: Kazan Chemical Engineering Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

34
B

TITLE: Use of electrophilic reagents for isomerization of alkylarsinic acid esters[1]

SOURCE: AN SSSR. Doklady, v. 166, no. 1, 1966, 144-147

TOPIC TAGS: isomerization, ester, arsenic compound, halide, esterfication, thermocouple pyrometer, exothermic reaction, thermogram, reaction temperature, iodide

ABSTRACT: The authors studied isomerization of alkylarsinic acids in the presence of electrophilic reagents: alkyl halides, acids and salts. Alcohols were used for esterification of the appropriate acids. A pyrometer with a chromel-alumel thermocouple was used for recording the temperature at which isomerization begins. Isomerization was exothermal in all cases with a single energy release on all thermograms except that for a mixture of dibutyl ester of butylarsinic acid in methyl iodoacetate which showed two exothermal effects beginning at 88° and 223°. The addition of electrophilic reagents lowers the temperature for initiation of isomerization. It was found that this temperature depends mainly on the nature of the alkyl halides and alkoxy groups in the molecule of the ester. Pure diethyl esters of allyl-, ethyl- and butylarsinic acids begin to isomerize at 155°, 227° and 240°, while the initial isomerization temperature for all of these esters is reduced to 92° when they are mixed with ethyl iodide. A similar effect was observed in the case of diamyl esters of methyl-, ethyl- and butylarsinic acids in the presence of ethyl iodide.

Card 1/2

UDC: 547.26.119+541.115

0216 2567

L 35387-66

ACC NR: AP6026819

0

A reduction in the temperature for initiation of isomerization was also observed when various salts are added to the alkylarsinic acid ester. Small additions of electrophilic catalysts have a considerable effect on the initial isomerization temperature. The effect of these reagents reaches a saturation point at concentrations greater than 5-15 mol.%. The addition of nucleophilic reagents does not lower the initial isomerization point. This paper was presented by Academician A. Ye. Arbuzov on 30 April 1965. Orig. art. has: 4 figures and 2 tables. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 21Apr65 / ORIG REF: 006

Card 2/2 PB

ACC NR: AP7013133 SOURCE CODE: UR/0062/66/000/009/1543/1546

AUTHOR: Shagidullin, R. R.; Chadayeva, N. A.; Zarubina, N. I.; Kamay, G. Kh.

ORG: Chemical Institute im. A. Ye. Arbuzov, AN SSSR (Khimicheskiy institut AN SSSR)

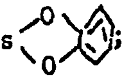
TITLE: Vibrational spectra of organoarsenic compounds. Communication 4. Infrared spectra and structure of cyclic arsenic-containing derivatives of pentaerythritol

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 9, 1966, 1543-1546

TOPIC TAGS: organic arsenic compound, IR absorption spectrum, IR spectrum, pentaerythritol

SUB CODE: 07

ABSTRACT: In a continuation of earlier investigations, the infrared absorption spectra of seven cyclic derivatives of arsenous, alkylarsinous, and arylarsinous acids with pentaerythritol were obtained and interpreted. Spectra are cited for:

1) $C(CH_2OH)_4$; 2) $P(OCH_2)_3CCH_2OH$; 3) $As(OCH_2)_3CCH_2OH$; 4) $As(OCH_2)_3CCH_2OAs$ ; 5) $As(OCH_2)_3CCH_2OAs(C_2H_5)_2$; 6) $As(OCH_2)_3CCH_2OAsPh_2$; 7) $C_2H_5As(OCH_2)_2C(CH_2O)_2AsC_2H_5$;

UDC: 543.422+547.242+547.427.1

Card1/2 0933 0827

ACC NR: AP7013133

8) $PhAs(OCH_2)_2C(CH_2O)_2AsPh$; 9) $C(CH_2O)_4As_2Cl_2$. The analytical characteristics of the bridge and spiran structures are discussed. On the basis of the data obtained, the reaction products of arsenic trichloride with pentaerythritol and Englund's compound possess an identical spiran structure. Orig. art. has: 1 figure and 2 formulas. [JPRS: 40,422]

Card 2/2

ACC NR: AP6033457 SOURCE CODE: UR/0413/66/000/018/0039/0039

INVENTOR: Kharrasova, F. M.; Kamay, G. Kh.; Sultanova, R. B.

ORG: none

TITLE: Isolation of aryldichlorophosphines. Class 12, No. 185908 [announced by Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 39

TOPIC TAGS: aryldichlorophosphine isolation, phosphorus trichloride, organic phosphorus compound

ABSTRACT: To simplify the extraction of aryldichlorophosphines from the reaction mixture formed in the decomposition of aryldichlorophosphine-aluminum trichloride complex with phosphorus oxychloride, phosphorus trichloride is used as the extractant. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 02Jul65

Card 1/1 UDC: 547.558.1:66.061.3

ACC NR: AP7012440 SOURCE CODE: UR/0413/66/000/018/0040/0040

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Kormachev, V. V.

ORG: none

TITLE: Method for preparing phosphorylated cyclohexenemethanals. Class 12, No. 185909 [Announced by Kazan Chemical Technological Institute im. S. M. Kirov]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 18, 1966, 40

TOPIC TAGS: cyclohexane, methanol, isoprene, phosphorylation

SUB CODE: 07

ABSTRACT: A method is claimed for the preparation of phosphorylated cyclohexenemethanals in which o,o-dialkylphosphonyldialkyl-acrylacetals are treated with isoprene in the presence of an equimolecular quantity of water and traces of hydrogen chloride with heating. [JPRS: 40,422]

Card 1/1 UDC: 547.594.1'241.07

0932 1392

L 34013-66 EWT(1)/EWT(m)/EWP(j) RO/RM

ACC NR: AP6025529 SOURCE CODE: UR/0079/66/036/001/0055/0057

AUTHOR: Gatilov, Yu. F.; Kamay, Gil'm

45

ORG: Institute of Organic Chemistry, AN SSSR, Kazan' (Institut organicheskoy khimii AN SSSR)

B

TITLE: Synthesis and properties of certain new sulfides of tertiary arsines

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 55-57

TOPIC TAGS: sulfide, chemical synthesis, biochemistry, fungus, fungicide, skin disease, animal disease, dermatology

ABSTRACT: New sulfides of the series of ethyl-n-alkylphenylarsine and ethyl-n-alkyl-p-tolylarsine, as well as ethyl-allyl-phenylarsine sulfide and ethyldiallylarsine sulfide were synthesized by the reaction of tertiary arsines with sulfur, and their properties were studied. Biological tests indicated that the sulfides of the ethyl-n-alkylphenylarsine series exhibit fungicidal properties with respect to the fungi (Trichophyton gypseum, Epidermophyton) that cause human and animal dermatomycoses. A substantial improvement of the fungicidal properties were noted in the series from the lower to the higher homologs. A later communication will discuss the variation of the fungicidal properties of other arsenic sulfides as a function of the substituent radicals. Orig. art. has: 2 tables. [JPRS: 35,998]

SUB CODE: 06 / SUBM DATE: 04Nov64 / ORIG REF: 002 / OTH REF: 003

Card 1/1 JO UDC: 546.19'221

0916 0916

L 31277-66 EWT(m)/EWP(j) RM

ACC NR: AP6022795 SOURCE CODE: UR/0079/66/036/002/0271/0273

46
B

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Kormachev, V. V.

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimikotekhnologicheskiy institut)

TITLE: Reaction of secondary chlorophosphines with chloromethylalkyl sulfides

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 271-273

TOPIC TAGS: chlorinated organic compound, organic phosphorus compound, organic sulfur compound, chemical decomposition, organic oxide, chemical synthesis

ABSTRACT: Diethylchlorophosphine and diphenylchlorophosphine react with chloromethylalkyl sulfides to form diethyl(diphenyl)mercaptoalkylmethyldichlorophosphines. Decomposition of the complexes with water, alcohols, or hydrogen sulfide yielded the corresponding phosphine oxides and thioxides. Five oxides and five thioxides were synthesized and characterized. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 22Feb65 / ORIG REF: 002

Card 1/1 [illegible] UDC: 546.181.1 + 547.279.1
0915 0774

L 31802-66 EWT(m)/EWP(j) RM

ACC NR: AP6021669 SOURCE CODE: UR/0079/66/036/003/0436/0442

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Fridland, S. V. 33 B

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Reaction of certain chlorides of pentavalent phosphorus with divinyl ether 1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 436-442

TOPIC TAGS: ether, phosphorus chloride, intermolecular complex, chemical decomposition, chemical reaction, reaction mechanism

ABSTRACT: The reaction of phosphorus pentachloride, ethyltetrachlorophosphorus, and phenyltetrachlorophosphorus with divinyl either was investigated. A complex was formed, which was decomposed with sulfur dioxide or acetic acid. The dichloride of beta-(alpha-chloroethoxy)vinylphosphinic acid and the dichloride of gamma-chlorobutadienephosphinic acid were isolated in substantial amounts from the reaction mass; the dichloride of beta-chlorovinylphosphinic acid and the dichloride of O-vinylphosphoric acid were isolated in smaller amounts. The possibility of the formation of a cyclic transition complex was hypothesized, and various variations of its stabilization were proposed. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 14Apr65 / ORIG REF: 005 / OTH REF: 001

Card 1/1 UDC: 547.361.2.37:546.185.131

L 04851-67 EWP(j)/EWT(m) RM

ACC NR: AP7000238 SOURCE CODE: UR/0079/66/036/004/0704/0708

29
B

AUTHOR: Chadayeva, N. A.; Kamay, G. Kh.; Usacheva, G. M.

ORG: Chemical Institute im. A. E. Arbuzov, AN SSSR, Kazan' (Khimicheskiy institut AN SSSR)

"Sulfur-Containing Organic Arsenic Compounds. II. New Method of Producing Thioesters of Acids of Trivalent Arsenic" 1

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 4, 1966, pp 704-708

Abstract: Alkyl and aryl thioesters of acids of trivalent arsenic were synthesized by the reaction of alkyl esters of acids of trivalent arsenic with mercaptans. This method of producing thioesters of acids of trivalent arsenic is distinguished not only by simplicity and good yields, but also by the purity of the "crude" products. Seven thioesters synthesized by the action of 3-chloro-2-acetoxypropylthiol and 3-chloro-2-hydroxypropylthiol on the corresponding alkyl esters of acids of trivalent arsenic. Orig. art. has: 1 table. [JPRS: 37,177]

TOPIC TAGS: organic arsenic compound, organic sulfur compound, mercaptan, ester, organic synthetic process

SUB CODE: 07 / SUBM DATE: 30 Apr 65 / ORIG REF: 009 / OTH REF: 012

Card 1/1 UDC: 546.19+547.279.1

0923 0775

L 05183-67 EWT(m)/EWP(j) RM

ACC NR: AP7000741 SOURCE CODE: UR/0079/66/036/005/0916/0920

CHADAYEVA, N. A., KAMAY, G. Kh., MAMAKOV, K. A., Chemical Institute imeni A. Ye. Arbuzov, Academy of Sciences USSR, Kazan (Khimicheskiy institut AN SSSR)

25
B

"Sulfur-Containing Organic Arsenic Compounds. III. Synthesis and Properties of Certain Thioesters of 5,10-Dihydrophenarsazinous Acid"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 5, 1966, pp 916-920

Abstract: New thioesters of 5,10-dihydrophenarsazinous acid were synthesized: 10-ethyl-, -n-propyl-, -isopropyl-, -n-butyl-, -tert-amyl-, -phenyl-, -benzyl-, -o-aminophenyl-, -hydrochloride-o-aminophenyl-, -beta-diethylaminoethyl-, -hydrochloride-beta-diethylaminoethyl sulfides of 5,10-dihydrophenarsazine; some of their properties were studied. 10-Chloro-5,10-dihydrophenarsazine was converted to 10-methoxy-5,10-dihydrophenarsazine with sodium methylate in anhydrous methanol, then the corresponding mercaptan was added to the reaction mixture, the aminothiols being isolated in the form of the hydrochlorides. 10-n-Propylsulfide-5,10-dihydrophenarsazine was synthesized by the action of 10-chloro-5,10-dihydrophenarsazine on the sodium mercaptide. The compounds are crystalline (with the exception of the oil 10-beta-diethylaminoethylsulfide-5,10-dihydrophenarsazine), readily soluble in organic solvents, hydrolyzed when heated with water, oxidized by hydrogen peroxide, and react vigorously with chlorides of carboxylic acids, breaking the arsenic-sulfur bond.

Card 1/2 UDC: 546.19: 547.279.1

0923 1970

L 05183-67

ACC NR: AP7000741

Orig. art. has: 1 table. [JPRS: 37,023]

TOPIC TAGS: organic arsenic compound, organic sulfur compound, ester, organic synthetic process

SUB CODE: 07 / SUBM DATE: 30Apr65 / ORIG REF: 004 / OTH REF: 002

Card 2/2 vmb

L 10358-67 EWP(j)/EWT(m) RM
ACC NR: AP7003106 SOURCE CODE: UR/0079/66/036/007/1223/1226

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Nurtdinov, S. Kh.

ORG: none

TITLE: Reaction of diethylchlorophosphine with derivatives of acrylic and methacrylic acids

SOURCE: Zhurnal obshchey khimii, v. 36, no. 7, 1966, 1223-1226

TOPIC TAGS: spectrometer, alkylphosphine, acrylic, methacrylic acid /UR-10 spectrometer

ABSTRACT: The reaction of diethylchlorophosphine with derivatives of acrylic and methacrylic acid was studied. The reaction of diethylchlorophosphine with acrylic and methacrylic acids and their chlorides, followed by decomposition of the adducts with alcohols, was found to lead to the corresponding esters of diethylphosphonopropionic acids (beta-diethylphosphonopropionic and alpha-methyl-beta-diethylphosphonopropionic, respectively). The complex formation was found to proceed along the pi-pi conjugated system, rather than at the carboxyl carbon atom. The infrared spectra of the reaction products confirm their structures. The authors thank R. B. Nigmatullin and E. R. Unanov for carrying out the spectral analyses on the spectrometer UR-10. Orig. art. has: 1 table. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 09Apr65 / ORIG REF: 003

UDC: 546.181.1 + 547.391.1.3

Card 1/1

L 11399-67 EWT(m)/EWP(j) RM SOURCE CODE: UR/0079/66/036/008/1424/1430
~~ACC NR:~~ AP7003655 33

AUTHOR: Tsivunin, V. S. Fridland, S. V.; Zykova, T. V.; Kamay, G. Kh.

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Reaction of phosphorus pentachloride with divinyl ether

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1424-1430

TOPIC TAGS: phosphorus chloride, vinyl compound, ester, organic phosphorus compound, NMR spectrum

ABSTRACT: 2,2,2-Trichloro-1-oxa-2-phospholene-3-methylene-5 was isolated by the reaction of phosphorus pentachloride with divinyl ether, identified by a study of its infrared spectrum and reactions with acetic acid, acetic anhydride, ethyl acetate, and bromine, heating at 160-165°, and a study of the proton magnetic resonance and double nuclear-nuclear resonance spectra. Treatment of the compound synthesized with nucleophilic agents yielded 2-chloro-1-oxa-2-phospholene-3-methylene-5-oxide-2, further reactions of which yielded a series of derivatives with an oxaphospholene ring. The structures of 2-chloro-1-oxa-2-phospholene-3-methylene-5-oxide-2 and 2-isobutoxy-1-oxa-2-phospholene-3-methylene-5-oxide-2 were studied by the nuclear magnetic resonance and double nuclear-nuclear magnetic resonance methods. The participation of the oxygen atom in the original reaction of PCl_5 with divinyl ether, was confirmed. Orig. art. has: 2 figures and 1 table. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 10Jul65 / ORIG REF: 004 / OTH REF: 001

UDC: 547.37 + 547.3 + 1.2 + 546.185'131
0926 0277

Card 1/1 ib

ACC NR: AP6028899 SOURCE CODE: UR/0079/66/036/008/1430/1433

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Kormachev, V. V.; Ukader, G. S.

ORG: Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Reactions of dialkylchlorophosphine with dibromoalkanes and bis(chloromethyl) ester

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1430-1433

brominated organic compound,
TOPIC TAGS: dialkylchlorophosphine, dibromoalkane, alkyldiphosphine dithioxide, chlorinated organic compound, organic phosphorus compound, alkylphosphine, alkane,

ABSTRACT: The addition of $(C_2H_5)_2PCl$ to 1,2-dibromethane, 1,3-dibromopropane, and bis(chloromethyl) ether was studied under various conditions and with various reagent ratios. It is shown that on boiling (on a water bath), dibromoethane and bis(chloromethyl) ether add mainly two molecules of $(C_2H_5)_2PCl$ to form the corresponding adducts. At 100—129°C, 1,3-dibromopropane adds one or two molecules of $(C_2H_5)_2PCl$ to form the corresponding mono- or diadducts. Decomposition of the adducts with alcohols, water, or H_2S yielded the coresponding compounds Ia (bp 180°C, d_4^{20} 1.1164, n_D^{20} 1.4919), Ib (bp 199—200°C),

UDC: 546.181.1+547.412

Card 1/2

ACC NR: AP6028899

IIa (mp 125—126°C), IIb (mp 8615°C), IIIa (mp 127—128°C), IIIb (mp 81.50°C), IV (bp 153—154°C), and V (bp 91—92°C).

[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 06Sep65/ ORIG REF: 003/ OTH REF: 001/

Card 2/2

ACC NR: AP6031389 SOURCE CODE: UR/0079/66/036/009/1670/1672

AUTHOR: Gatilov, Yu. F.; Kamay, G. Kh.; Shagidullin, R. R.

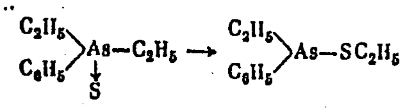
ORG: Kazan State Pedagogical Institute (Kazanskiy gosudarstvennyy institut); Institute of Organic and Physical Chemistry im. A. Ye. Arbuzov, Academy of Sciences, SSSR, Kazan (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Rearrangement of some dialkylarylarsine sulfides into the corresponding alkyl alkylarylalkylmercaptoarsines

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1670-1672

TOPIC TAGS: fungicide, dialkylarylarsine sulfide, alkylalkylaryl, alkylmercaptoarsine, sulfide, mercaptan, phenyl compound

ABSTRACT: To obtain new fungicides, rearrangement of some dialkylarylarsine sulfides $Alk_2(Ar)As \rightarrow S$ was studied. Diethylphenylarsine sulfide on heating in a sealed tube for 7 hr at 240°C undergoes rearrangement:



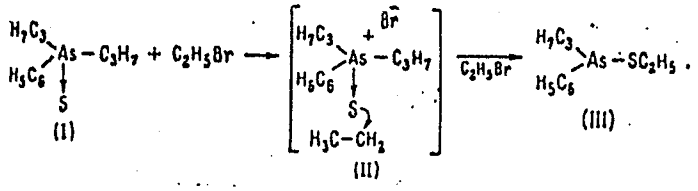
$$(C_2H_5)(C_6H_5)As(\rightarrow S)-C_2H_5 \longrightarrow (C_2H_5)(C_6H_5)As-SC_2H_5$$

Card 1/2

UDC: 542.952.1:546.221.19

ACC NR: AP6031389

The same reaction takes place in vacuo at 200°C. The rearrangement of dipropylphenylarsonium sulfide (I) in the presence of ethyl bromide in a sealed tube at 100°C proceeds by the following mechanism:



In the presence of propyl bromide, I underwent rearrangement similar to that in the presence of ethyl bromide to form the corresponding thioarsine. [WA-50; CBE No. 12]

SUB CODE: 07/ SUBM DATE: 10Jul65/ ORIG REF: 005/ OTH REF: 005/

Card 2/2

ACC NR: AP6031391

SOURCE CODE: UR/0079/66/036/009/1677/1679

AUTHOR: Chernokal'skiy, B. D.; Gamayurova, V. S.; Kamay, G. Kh.

ORG: Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Ionization constants of some alkylarsonic acids

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1677-1679

TOPIC TAGS: ionization constant, alkylarsonic acid, sodium compound, arsenic compound, alkali halide, ionization

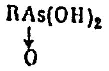
ABSTRACT: The acids were prepared by the known reaction of sodium arsenite with alkyl halides. Their ionization constants were determined by potentiometric titration. Values of the ionization constants are given in the table.

Card 1/2

UDC: 546.19+541.124.7

ACC NR: AP6031391

Table 1. Conditions of synthesis and properties of alkylarsonic acids



$\overset{\displaystyle RAs(OH)_2}{\underset{O}{\downarrow}}$

No.	R	Alkyl halide used	Reaction time		mp		pK_1	pK_2
					Found	Literature data		
1	CH_3	CH_3J	—	10	154—155°	159° [4]	4.58	7.82
2	C_2H_5	C_2H_5Br	82	52	94—95	95—96 [3]	4.72	8.00
3	$CH_2{=}CH{-}CH_2$	C_3H_5Br	82	24	126—127	126—128 [3]	4.48	7.51
4	$(CH_3)_2CH$ •	$(CH_3)_2CHBr$	56	370	119	—	4.81	8.36
5	C_4H_9	C_4H_9Br	68	51	152—153	153 [4]	4.76	—
6	$(CH_3)_2CHCH_2$ ••	$(CH_3)_2CHCH_2Br$	69	180	169—170	—	4.79	8.16
7	$C_6H_5CH_2$	$C_6H_5CH_2Cl$	90	6	180—182	167—168 [3]	4.43	7.51

The ionization constants can be correlated to the Taft σ*-constants. [WA-50; CBE No. 12]

SUB CODE: 07/ SUBM DATE: 12Jul65/ ORIG REF: 002/ OTH REF: 005/

Card 2/2

ACC NR: AP6033178 SOURCE CODE: UR/0079/66/036/010/1827/1830

AUTHOR: Tsivunin, V. S.; Kamay, G. Kh.; Nurtdinov, S. Kh.

ORG: none

TITLE: Reactions of diethylchlorophosphine with derivatives of α,β-unsaturated acids

SOURCE: Zhurnal obshchey khimii, v. 36, no. 10, 1966, 1827-1830

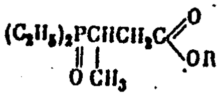
TOPIC TAGS: alkylphosphinylpropionic acid ester, ~~alkylchlorophosphinylpropionic acid ester~~ acrylic acid, methacrylic acid, organic phosphorus compound

ABSTRACT: Diethylchlorophosphine reacts with unsaturated acids (crotonic, acrylic, and methacrylic) and their chlorides in heptane at -15 to -20°C to form the corresponding adducts. Decomposition with alcohols of the adducts from crotonic acid (or its chloride) and diethylchlorophosphine at 60—70°C gave the corresponding esters shown in Table 1.

Card 1/4 UDC: 546.181.1+547.39:547.393.3

ACC NR: AP6033178

Table 1. Esters of β-methyl-β-diethylphosphenylpropionic acid



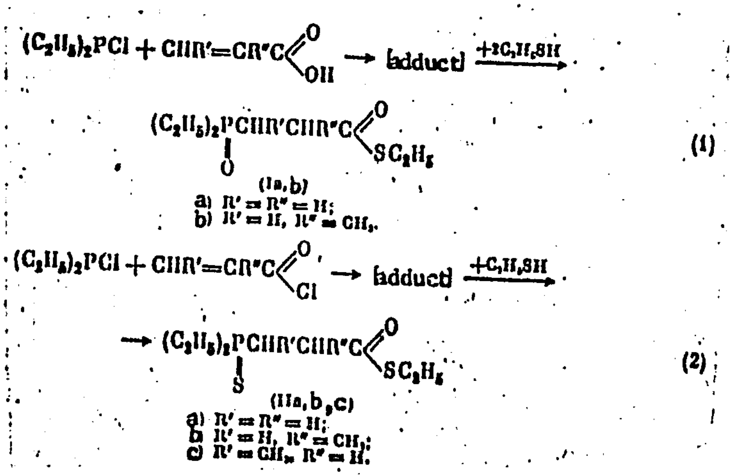
$(C_2H_5)_2P(=O)CH(CH_3)CH_2C(=O)OR$

Compound no.	R	Yield (in %)	bp (p in mm)	d_4^{20}	n_D^{20}	MR_D		% P	Formula	Calc'd % P
						Found	Calc'd	Found		
I	CH_3	48	144—146° (2)	1.0740	1.4721	53.80	54.04	14.84, 15.85	$C_9H_{19}O_3P$	15.02
II	C_2H_5	41	158—159 (4)	1.0480	1.4698	58.60	58.65	13.49, 13.79	$C_{10}H_{21}O_3P$	14.07
III	C_3H_7	54	163—165 (3)	1.0260	1.4685	63.27	63.27	13.60, 13.75	$C_{11}H_{23}O_3P$	13.22
IV	C_4H_9	54	182—184 (4.5)	1.0160	1.4050	67.51	67.80	12.17, 12.87	$C_{12}H_{25}O_3P$	12.47
V	C_5H_{11}	48	188—190 (5)	1.0120	1.4630	72.44	72.51	11.90, 11.67	$C_{13}H_{27}O_3P$	11.89

Decomposition of the adducts with ethylmercaptan proceeds in two ways:

Card 2/4

ACC NR: AP6033178



$$(C_2H_5)_2PCl + CHR'{=}CR''C\!\left\langle{}^{O}_{OH}\right. \rightarrow [adduct] \xrightarrow{+C_2H_5SH} (C_2H_5)_2\overset{}{\underset{O}{\underset{\|}{P}}}CHR'CHR''C\!\left\langle{}^{O}_{SC_2H_5}\right. \quad (1)$$

(Ia,b)
a) R' = R'' = H;
b) R' = H, R'' = CH$_3$.

$$(C_2H_5)_2PCl + CHR'{=}CR''C\!\left\langle{}^{O}_{Cl}\right. \rightarrow [adduct] \xrightarrow{+C_2H_5SH} \rightarrow (C_2H_5)_2\underset{S}{\underset{\|}{P}}CHR'CHR''C\!\left\langle{}^{O}_{SC_2H_5}\right. \quad (2)$$

(IIa,b,c)
a) R' = R'' = H;
b) R' = H, R'' = CH$_3$;
c) R' = CH$_3$, R'' = H.

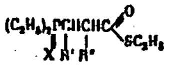
to form Ia and Ib or IIa, IIb, and IIc, which are given in Table 2. Orig. art. has: 2 tables.

[W.A. 50]

Card 3/4

ACC NR: AP6033178

Table 2. Ethyl esters of β-diethylphosphinyl(Ia,Ib) and β-diethylthiophosphinylpropionic acids



$(C_2H_5)_2P(X)CH(R')CH(R'')C(O)SC_2H_5$

Compound No.	X	R'	R''	Yield (in %)	bp (p in mm)	d_4^{20}	n_D^{20}	MR_D Found	MR_D Calc'd	Found % P	Found % S	Formula	Calc'd % P	Calc'd % S
Ia	O	H	H	48	170° (3.5)	1.1030	1.5108	60.38	60.40	14.40	14.71	$C_9H_{19}O_2PS$	13.94	14.41
Ib	O	H	CH_3	52	159—161 (1.5)	1.0750	1.5020	64.98	65.02	13.50	14.00	$C_{10}H_{21}O_2PS$	13.11	13.57
IIa	S	H	H	64	172—173 (3)	1.0930	1.5458	69.01	68.72	13.39	27.50	$C_9H_{19}OPS_2$	12.99	28.90
IIb	S	H	CH_3	50	165—168 (1)	1.0710	1.5382	73.59	73.34	12.00	24.74	$C_{10}H_{21}OPS_2$	12.28	25.43
IIc	S	CH_3	H	55	170—172 (2)	1.0790	1.5438	73.75	73.34	12.50	25.04	$C_{10}H_{21}OPS_2$	12.28	25.43

SUB CODE: 07/ SUBM DATE: 16Oct65/ ORIG REF: 002

Card 4/4

ACC NR: AP7013145 SOURCE CODE: UR/0079/66/036/011/1987/1991

AUTHOR: Kharrasova, F. M.; Kamay, Gil'm; Shagidullin, R. R.

ORG: Kazan' Chemicotechnological Institute imeni S. M. Kirov (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Action of carbon tetrachloride and chloral on alkyl esters of di-(p-tolylphosphinous acid

SOURCE: Zhurnal obshchey khimii, v. 36, no. 11, 1966, 1987-1991

TOPIC TAGS: carbon tetrachloride, ester, phosphinic acid, organic phosphorus compound

SUB CODE: 07

ABSTRACT: New alkyl esters of di-p-tolylphosphinous acid were synthesized and characterized. These alkyl esters of di-p-tolylphosphinous acid were found to react with carbon tetrachloride, liberating the alkyl chloride and forming di-p-tolyltrichloromethylphosphine oxide in 53-78% yields. The esters also reacted readily with chloral, liberating the alkyl chloride and forming the beta,beta-dichlorovinyl ester of di-p-tolylphosphinic acid. The infrared spectra of some of the reaction products are cited and analyzed. Orig. art. has: 1 figure, 1 formula and 1 table. [JPRS: 40,351]

Card 1/1 UDC: 547.588.1

0933 0852

KAMAYAN, V.S., ALIKHANYAN, A.I.

"The Spectra of π Mesons Generated by Fast Cosmic Ray Neutrons in Thin Layers of Matter," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

KAMAYEV, A.A

123-1-956

Translation from: Referativnyy Zhurnal, Mashinostroyeniye, 1957, Nr 1, p. 143 (USSR)

AUTHOR: Kamayev, A. A.

TITLE: Determination of Forces Acting Upon Locomotive Running Gear, When Passing Over Curved Sections of Railroad Track (Ob odnoy oshibke v raschetakh vpisyvaniya ekipazha v krivyye uchastki puti)

PERIODICAL: Trudy Bezhitsk.Instituta transportn.mashinostroyeniya, 1955, Nr 13, pp.89-91.

ABSTRACT: It is noted that in the accepted methods of dynamic analysis the motion of a locomotive running gear in the curve is regarded as a forward motion along the longitudinal axis of the locomotive and as the rotary motion in regard to the base of a perpendicular drawn from the center of the curve to the longitudinal axis of the locomotive running gear. The direction of friction forces - in the adapted methods - is dependent upon the pole of rotation, the position of which changes, thus causing a change in direction of the friction forces. As a result an error

Card 1/2

KAMAYEV, A.A., dots., kand.tekhn.nauk

Creating methods for modeling dynamics of railroad rolling stock. Trudy BITM no.17:55-84 '57. (MIRA 11:10)
(Railroads--Rolling stock--Dynamics)

SOV/124-58-11-13363

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 205 (USSR)

AUTHOR: Kamayev, A. A.

TITLE: Determination of the Deformation Due to Horizontal Forces of a Railroad Rail in a Curve (Opredeleniye deformatsii rel'sa v krivykh zh. d. puti pod deystviyem poperechnykh gorizontal'nykh usiliy)

PERIODICAL: Tr. Bryanskogo in-ta transp. mashinostr., 1957, Nr 17, pp 85-101

ABSTRACT: Investigation of the subject of the horizontal displacement of the rail heads in curved portions of a railroad track resulting from the forces exerted by a locomotive on the track. The railroad track in curves is considered as a curved beam supported by an elastic foundation. A fundamental differential equation is set up for the deformation of the rail in the curve; the equation is integrated under two assumptions corresponding respectively to an infinite and a finite length of the curved beam.

P. I. Klubin

Card 1/1

KAMAYEV A.A.

KAMAYEV, A.A., kand.tekhn.nauk (Bryansk)

[redacted]

On improving the dynamic properties of locomotives and cars.
Zhel. dor. transp. 40 no.1:69-70 Ja '58. (MIRA 11:1)
(Locomotives) (Railroads--Cars)

KAMAYEV, A. A., Candidate Tech Sci (diss) -- "Dynamic modeling. Entering railroad equipment onto graph curves". Leningrad, 1959. 12 pp (Min Transportation USSR, Leningrad Order of Lenin Inst of Railroad Transport Engineers im Acad V. N. Obraztsov), 200 copies (KL, No 24, 1959, 137)

KAMAYEV, A.A., dots., kand. tekhn. nauk

Testing models of 16-axle transporters. Zhel. dor. transp. 41 no.5:74 My '59. (MIRA 12:7)

(Railroads--Rolling stock--Testing)
(Railroads--Models--Testing)

KAMAYEV, A.A., kand.tekhn.nauk

Using models for studying the action of the rolling stock on the track on curves. Sbor.trud.BITM no.20:5-42 '61. (MIRA 15:3)

(Railroads--Models)

KAMAYEV, A.A., prof., doktor tekhn.nauk; SOROKO, M.I., kand.tekhn.nauk

Effect of the force of friction in body supports on the curve-in of the vehicle. Trudy BITM no.21:65-75 '64.

(MIRA 18:8)

KISIL, I. M.; DUBOVSKIY, B. G.; KAMAYEV, A. F.; GERASEVA, L. A.; GLAZKOV, Yu. Yu.

"The Role of Critical Experiments in Designing the First Atomic Power Station and the Beloyarsk Atomic Power Station."

Report presented at the IAEA Symposium on Exponential and Critical Experiments, Amsterdam, Netherlands, 2-6 Sep 63.

KAMAYEV, A.U., inzh.

Substantiation of the economic efficiency of mechanization and automation of the initial accounting for production. Mekh. i avtom. proizv. 19 no. 10:35-38 0 '65. (MIRA 18:12)

KAMAYEV, A.U.

Regulating wages and establishing work norms in electroplating shops of the machinery industry. Trudy KAI 52:131-139 '60.
(MIRA 16:7)

(Wages)
(Machinery industry--Production standards)

KAMAYEV, A.U.

Economic substantiation of the mechanization of the original accounting for production. Trudy KAI no.84:36-44 '64. (MIRA 18:10)

KRASIN, A.K.; MOROZOV, I.G.; GERASEVA, L.A.; KAMAYEV, A.V.

[Study of beryllium as a neutron moderator] Izuchenie berilliia kak zamedlitelia neitronov. Moskva, 1955. 17 p. (MIRA 14:7)

(Beryllium) (Neutrons—Capture)

KAMAYEV, A.V.

SUBJECT	USSR / PHYSICS	CARD 1 / 2	PA - 1608
AUTHOR	KRASIN,A.K., DUBOVSKY,B.G., MATALIN,E.Y., INYUTIN,E.I., KAMAEV,A.V. LANTSOV,M.N.		
TITLE	An Investigation of Physically Characteristic Quantities in a Nuclear Power Station.		
PERIODICAL	Atomnaja Energija, 1, fasc.2, 2-10 (1956) Issued: 6 / 1956		

Experiments carried out on the reactor of the Nuclear Power Station of the Academy of Science in the USSR are described.
The data for the characteristic quantities obtained on this occasion can be used for the operation of similar reactors as well as for the further development of heterogeneous reactors and reactors with water cooling which work with thermal neutrons.
Experiments and measurements were carried out with respect to the critical mass of the fuel with and without water in the channels, as well as concerning size and arrangement of the boron control rods, maximum activity and its control, the influence exercised by water on activity, the probability of escaping resonance capture, and the velocity distribution of neutrons and their density in the reactor.
The important values found as a result of these experiments agree well with computed values.

KAMAYEV, A.V.

PA - 2313 1

AUTHOR: DUBOVSKIY, B.G., KAMAYEV, A.V., MAKAROV, E.F.

TITLE: On the Measuring of the cross section of the Reaction $Be^9(n,2n)Be^8$ for fission neutrons. (Izmereniye effektivnogo secheniya reaktsii $Be^9(n,2n)Be^8$ dlya neytronov deleniya, Russian).

PERIODICAL: Atomnaia Energiia, 1957, Vol 2, Nr 3, pp 279 -281 (U.S.S.R.).
Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: Method of measuring: An uranium-converter was used as source of the neutrons of the fission spectrum. It was fitted in the flux of the neutrons coming out of the thermal column of a reactor (in a nuclear power plant). The converter was surrounded alternatingly by balls of beryllium and graphite. The increase of neutrons in beryllium was measured by means of a neutron counter. Each measuring series consisted of three measurements: measuring by means of a beryllium ball, measuring my means of a graphite ball, and measuring of the background by means of cadmium with the bundle of the thermal neutrons being covered. In a similar way experiments were carried out with Po-α-B- and Po-α-Be-neutron sources.

Measuring results: The increase of neutrons in the beryllium balls was computed from the cross sections of the reactions (n,2n), (γ,n), and (n,α). The influence of the reaction (γ,n) may be neglected. The counting intensities of the neutrons are in con-

Card 1/3

nection with the cross sections of the reactions (n,2n) by the relation $n = n_0 e^{Nl(\sigma_{n,2n} - \sigma_{n,\alpha})}$. In this connection n and n_0 denote the counting intensities with a beryllium ball and a graphite ball, respectively; N denotes the number of the beryllium nuclei per cm^3, l - denotes the average length of path in the spherical beryllium layer. l is considerably greater than the thickness of the beryllium layer d = R - r. The transport length ($\lambda = 7,3$ cm) was determined from the average scattering cross section for beryllium for neutrons with energies of 2 to 8 MeV in consideration of the anisotropy of the scattering ($\sigma_s \sim 1,5 \pm 0,3$ barn). Experimental conditions , the average values of the quantity $\varepsilon = (n - n_0)/n_0$ and the difference of the cross sections $\sigma_{n,2n} - \sigma_{n,\alpha}$ computed are shown in a table. It is found here that $\sigma_{n,2n} = (73 \pm 20).10^{-27}\ cm^2$. The comparison of the cross sections obtained with the shape of the spectrum of the sources indicates that the fission neutrons with more than 4 MeV contribute the main part to the

PA - 2313

On the Measuring of the Cross-Section of the Reaction $Be^9(n,2n),Be^8$ for fission Neutrons.

increase. Qualitatively this indicates a papid increase of the difference of the cross sections of the reactions (n,2n) and (n,α) a an increasing energy of the neutrons.
(3 illus. tions and 1 table).

ASSOCIATION: Not given.
PRESENTED BY:
SUBMITTED: 19.9.1956.
AVAILABLE: Library of Congress.

Card 3/3

KAMAYEV, A.V.

89-5-1/22

AUTHOR: GROMOVA, Z.I., DUBOVSKIY, B.G., KAMAYEV, A.V., ORLOV, V.V.

TITLE: Measurements of Neutron Resonance Absorption in the Reactor of the Atomic Power Plant. (Izmereniye rezonansnogo pogloshcheniya neytronov v reaktore atomnoy elektrostantsii, Russian)

PERIODICAL: Atomnaia Energiia, 1957, Vol 2, Nr 5, pp 411-415 (U.S.S.R.)

ABSTRACT:

According to three different formulae, which, besides the known or estimated characteristic number, contain the ratio $\frac{R}{T}$ between the number of resonance-captured neutrons in a fuel element in 238-U and the number of captured thermal neutrons, as well as by measuring this ratio the probability $1 - \varphi$ of resonance capture on the occasion of the moderation of a fast neutron was computed.

The ratio of the uranium-graphite lattice was carefully maintained in an experimental channel while measuring was carried out by comparing the activation of an uranium sample enclosed in a cadmium shell and of an open one, as well as by comparing $\frac{R}{T}$ of uranium and a resonance indicator with known thermal capture cross section and resonance integral.

Card 1/2

89-5-1/22

Measurements of Neutron Resonance Absorption in the Reactor of the Atomic Power Plant.

Results, which amount to an average of $\varphi = 0{,}900 \pm 0{,}015$ for the reactor of the Soviet Nuclear Power Plant, agree well with one another as well as with theoretically computed results. (2 Illustrations, 3 References).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 2.11.1957
AVAILABLE: Library of Congress

Card 2/2

KAMAYEV, A.V.

21(4) PHASE I BOOK EXPLOITATION SOV/2583

International Conference on the Peaceful Uses of Atomic Engergy. 2nd, Geneva, 1958.

Doklady sovetskikh uchenykh; yadernyye reaktory i yadernaya energetika. (Reports of Soviet Scientists; Nuclear Reactors and Nuclear Power) Moscow, Atomizdat, 1959. 707 p. (Series: Its: Trudy, vol. 2) Errata slip inserted. 8,000 copies printed.

General Eds.: N.A. Dollezhal, Corresponding Member, USSR Academy of Sciences, A.K. Krasin, Doctor of Physical and Mathematical Sciences, A.I. Leypunskiy, Member, Ukrainian SSR Academy of Sciences, I.I. Novikov, Corresponding Member, USSR Academy of Sciences, and V.S. Fursov, Doctor of Physical and Mathematical Sciences; Ed.: A.F. Alyab'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This book is intended for scientists and engineers engaged in reactor designing, as well as for professors and students of higher technical schools where reactor design is taught.

COVERAGE: This is the second volume of a six-volume collection on the peaceful use of atomic energy. The six volumes contain the reports presented by Soviet scientists at the Second International Conference on Peaceful Uses of Atomic Energy, held from September 1 to 13, 1958 in Geneva. Volume 2 consists of three parts. The first is devoted to atomic power plants under construction in the Soviet Union; the second to experimental and research reactors, the experiments carried out on them, and the work to improve them; and the third, which is predominantly theoretical, to problems of nuclear reactor physics and construction engineering. Yu. I. Koryakin is the science editor of this volume. See SOV/2081 for titles of all volumes of the set. References appear at the end of the articles.

Kostovoy, V.I., V.S. Dikarev, M.B. Yegizarov, and Yu. S. Saltykov. Measuring Neutron Spectra in Uranium Water Lattices (Report No. 2152) 546

Krasin, A.K., B.G. Dubovskiy, M.N. Lantsov, Yu.Yu. Glazkov, R.K. Goncharov, A.V. Kamayev, L.A. Geraseva, V.V. Vavilov, Ye. I. Inyutin, and A.F. Senchenkov. Studying the Physical Characteristics of a Beryllium-moderator Reactor (Report No. 2146) 555

Galanin, A.D., S.A. Nemirovskaya, A.P. Rudik, Yu. G. Abov, V.F. Belkin, and P.A. Krupchitskiy. Critical Experiment on an Experimental Heavy-water Reactor (Report No. 2036) 570

Marchuk, G.I., V. Ya. Pupko, Ye. I. Pogudalina, V.V. Smelov, I.P. Tyuterev, S.T. Platonova, and G.I. Druzhinina. Certain Problems in Nuclear Reactor Physics and Methods of Calculating Them (Report No. 2151) 588

Sinyutin, G.V. and V.N. Semenov. Determination of Control Rod Effectiveness in a Cylindrical Reactor (Report No. 2469) 613

Gel'fand, I.M., S.M. Feynberg, A.S. Frolov, and N.N. Chentsov. Using the Monte Carlo Method of Random Sampling for Solving the Kinetic Equation (Report No. 2141) 628

Laletin, N.I. Neutron Distribution in a Heterogeneous Medium (Report No. 2189) 634

Kazarnovskiy, M.V., A.V. Stepanov, and F.L. Shapiro. Neutron Thermalization and Diffusion in Heavy Media (Report No. 2148) 651

Veynik, A.I., V.S. Yermakov, and A.V. Lykov. Using the Onsager Theory for Studying Neutron Diffusion in the Absorbing Media of Nuclear Reactors (Report No. 2224) 668

Broder, D.L., S.A. Kurkin, A.A. Kutuzov, V.V. Levin, and V.V. Orlov. Studying the Spatial and Energy Distribution of Neutrons in Different Media (Report No. 2147) 674

Dmitriyev, A.B. Boron Ionization Chambers for Work in Nuclear Reactors (Report No. 2084) 690

Kirillin. V.A., and S.A. Ulybin. Experimental Determination of Specific Volumes of Heavy Water in a Wide Temperature and Pressure Range (Report No. 2471) 696

Kamayev, A. V.

PHASE I BOOK EXPLOITATION SOV/5337

Panasenkova, Ye. I., ed.

Issledovaniya kriticheskikh parametrov reaktornykh sistem; sbornik statey (Study of Critical Parameters of Reactor Systems; Collection of Articles) Moscow, Gosatomizdat, 1960. 117 p. Errata slip inserted. 3,600 copies printed.

Tech. Ed.: N.A. Vlasova.

PURPOSE: This collection of articles is intended for nuclear physicists and engineers of nuclear power plants.

COVERAGE: The book contains previously unpublished original articles concerned with the theoretical calculation of neutron fluxes and of critical parameters (critical masses and volumes) of various reactor systems: uranium-graphite, uranium-beryllium, and water mixtures of uranium and plutonium. Individual articles present tables and graphs used in the determination of the dependence of critical parameters on the relative concentration and the character of the fissionable material and the moderator, as well as on fuel enrichment for a wide range of neutron energy spectra. The following are mentioned: P.A. Gavrilov (scientific editor of the collection), and S.I. Sokolov, L.N. Spakhova, A. Ya. Ryumina, R.P. Roschina and V.S. Vladimirov (compilers of Table 1, table of values of coefficients k, D_0 and τ). References accompany individual articles.

TABLE OF CONTENTS:

Romanov, Yu. A. Exact Solutions of the Single-Velocity Kinetic Equation and Their Use in Solving Diffusion Problems (the Perfected Diffusion Method) 3

Marchuk, G.I., and V.P. Kochergin. The Approximation Method of Calculating the Critical Masses of Reactors With an Infinite Reflector 27

Rumyantsev, G. Ya. The Use of Even Approximations in the Method of Spherical Harmonics 34

Marchuk, G.I., G.A. Ilyasova, V. Ye. Kolesov, V.P. Kochergin, L.I. Kuznetsova, and Ye. I. Pogudalina. Critical Masses of Uranium-Graphite Reactors 39

Marchuk, G.I., G.A. Ilyasova, V. Ye. Kolesov, V.P. Kochergin, L.I. Kuznetsova, and Ye. I. Pogudalina. Critical Masses of Uranium-Beryllium Reactors 52

Marchuk, G.I., G.A. Ilyasova, V. Ye. Kolesov, V.P. Kochergin, L.I. Kuznetsova, and Ye. I. Pogudalina. Critical Masses of Aqueous Mixtures of Compounds of Uranium and Plutonium 57

Zagrafov, V.G., Interaction of Systems of a Fissionable Substance in a Scattering Medium 74

Kamayev, A.V., B.G. Dubovskiy, V.V. Vavilov, G.A. Popov, Yu.D. Palamarchuk, and S.P. Ivanov. Experimental Study of the Interaction Effects of Two Subcritical Reactors 101

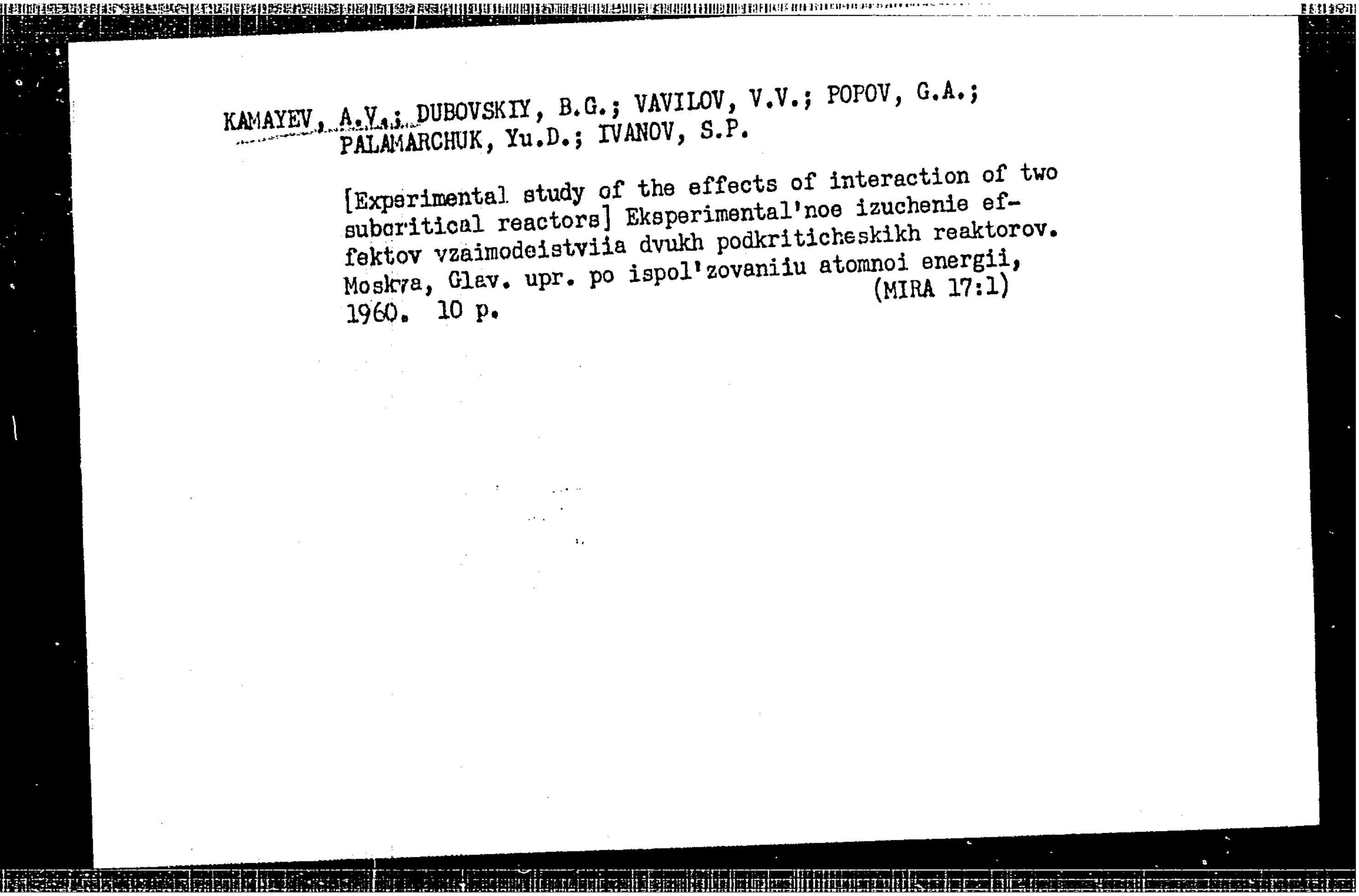
Marchuk, G.I., B.G. Dubovskiy, V.V. Smelov, and Z.N. Milyutina. The Design of Sectionalized Nuclear Plants 107

AVAILABLE: Library of Congress

Card 3/3

JA/dwm/mas
7-29-61

15



KAMAYEV, A.V.; DUBOVSKIY, B.G.; VAVILOV, V.V.; POPOV, G.A.;
PALAMARCHUK, Yu.D.; IVANOV, S.P.

[Experimental study of the effects of interaction of two subcritical reactors] Eksperimental'noe izuchenie effektov vzaimodeistviia dvukh podkriticheskikh reaktorov. Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 10 p. (MIRA 17:1)

DUBOVSKIY, B.G.; KAMAYEV, A.V.; VLADYKOV, G.M.; KUZNETSOV, F.M.; NOZIK, V.Z.;
PALAMARCHUK, Yu.D.; POPOV, G.A.; VAVILOV, V.V.

Interaction in subcritical reactors. Atom. energ. 16 no.1:16-20 Ja '64. (MIRA 17:2)

DUBOVSKIY, B.G.; KAMAYEV, A.V.; KUZNETSOV, F.M.; VLADYKOV, G.M.; POPOV, G.A.;
PALAMARCHUK, Yu.D.

Critical parameters of aqueous solutions of $UO_2(NO_3)_2$. Atom. energ.
16 no.1:21-25 Ja '64. (MIRA 17:2)

DUBOVSKIY, B. G.; KAMAYEV, A. V.; VLADYKOV, G. M.

"Critical parameters of uranium salt aqueous solutions and nuclear safety."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

ACC NR: AM6032824 (A) Monograph UR/

Dubovskiy, B. G.; Kamayev, A. V.; Kuznetsov, F. M.; Vladykov, G. M.; Gurin, V. N.; Murashov, A. P.; Markelov, I. P.; Kochergin, V. P.; Vaymugin, A. A.; Sviridenko, V. Ya.; Diyev, L.V.; Bogatyrev, V.K.; Vavilov, V. V.; Frolov, V. V.

Critical parameters of systems with fissionable materials and nuclear safety; a handbook (Kriticheskiye parametry sistem s delyashchimisya veshchestvami i yadernaya bezopasnost'; spravochnik) Moscow. Atomizdat. 1966. 225 p. biblio., diagrs., tables. 9000 copies printed.

TOPIC TAGS: nuclear safety, nuclear reactor, homogeneous nuclear reactor, heterogeneous nuclear reactor, chain reaction

PURPOSE AND COVERAGE: This handbook is intended for specialists concerned with the problems of assuring nuclear safety as well as for persons calculating, designing, operating, and studying the physics of nuclear reactors of various types, as well as for students in associated departments. The book discusses methods of creating and maintaining conditions which will exclude the possibility of an accidentally chain reaction during the processing, storage, and transportation of fissionable materials. The book is based mainly on the results of studies published before 1965. In addition to information on critical parameters of systems with fissionable materials, the authors considered it useful to include in the handbook the fundamental concepts of criticality, principles for assuring nuclear safety, a review of cases of the occurrence of uncontrolled chain reactions,

Card 1/2 UDC: 621.039.519.4/621.039.58

ACC NR: AM6032824

and the basic standards for nuclear safety. The authors express appreciation to M. P. Rodionov, T. I. Sukhoverkhova, M. A. Gavrilova, and L. V. Antonkina for their valuable assistance. There are 64 references, 30 of which are Soviet.

TABLE OF CONTENTS (Abridged)

From the authors -- 3

Ch. I. Basic concepts of nuclear safety -- 5
Ch. II. Review of experimental data on critical parameters of systems with fissionable materials -- 14
Ch. III. Methods of calculating homogeneous reactors -- 88
Ch. IV. Effect of neutron absorbers on the criticality of systems with fissionable materials -- 142
Ch. V. Criticality of systems of interacting subcritical assemblies from fissionable materials -- 169
Ch. VI. Uncontrolled chain reaction outbursts in systems containing fissionable materials --202
Ch. VII. Basic standards for assuring nuclear safety -- 214

References -- 223

SUB CODE: 18/ SUBM DATE: 20May66/ ORIG REF: 030/ OTH REF: 034

Card 2/2